

Inventory of montane-nesting birds in the Southwest Alaska Network

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Background: Previous Work

- Species lists, seasonal observations (e.g., Proenneke, Cahalane, Gibson, etc.)
- Focused, species-specific (e.g., Surfbird, coastal birds)



Objectives

- Document the occurrence of at least 90% of the montane-nesting species that occur in each park
- Describe distribution and relative abundance of species within each park
- Provide information from which to develop a monitoring strategy

Challenge of study design

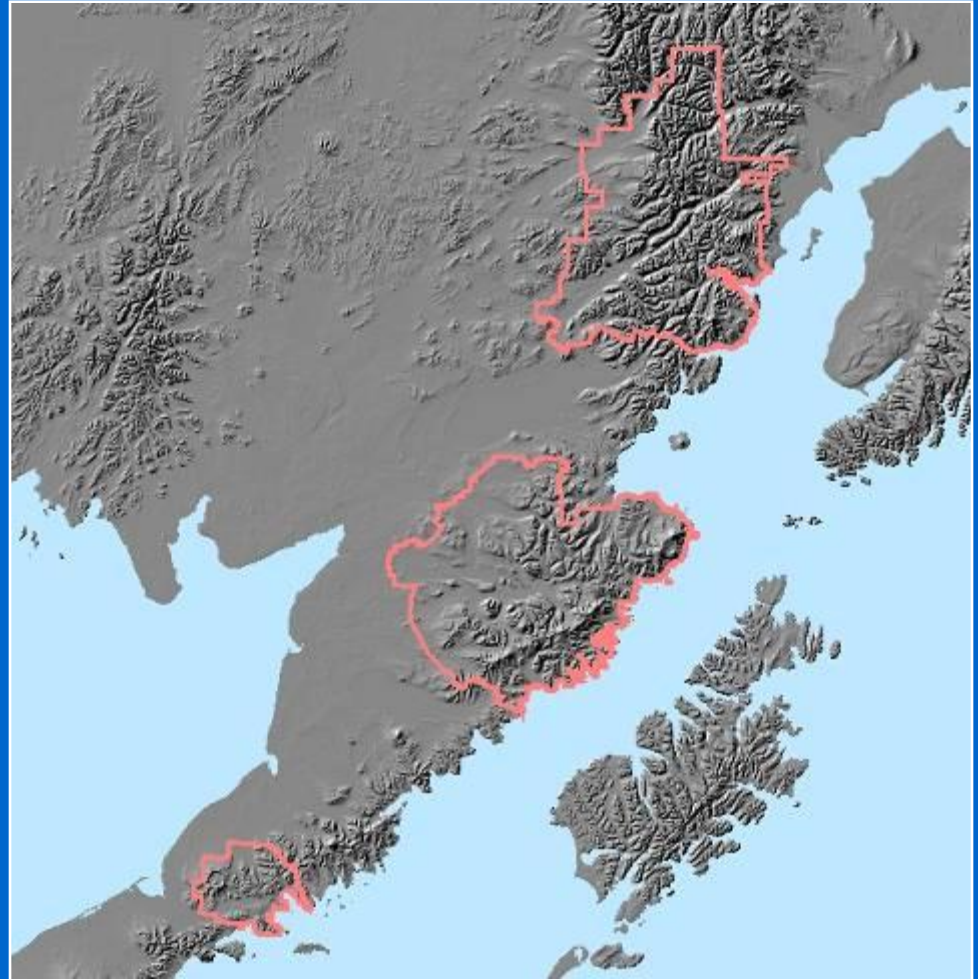
Steep, snow-covered mountains,
glaciers, and....

A man with a beard, wearing a dark bucket hat, a light green jacket with a dark hood, and dark cargo pants, stands in profile facing left. He is surrounded by a dense thicket of bare, tangled tree branches and shrubs. The background shows a pale, overcast sky. The text "...thick vegetation" is overlaid in white at the bottom left.

...thick vegetation

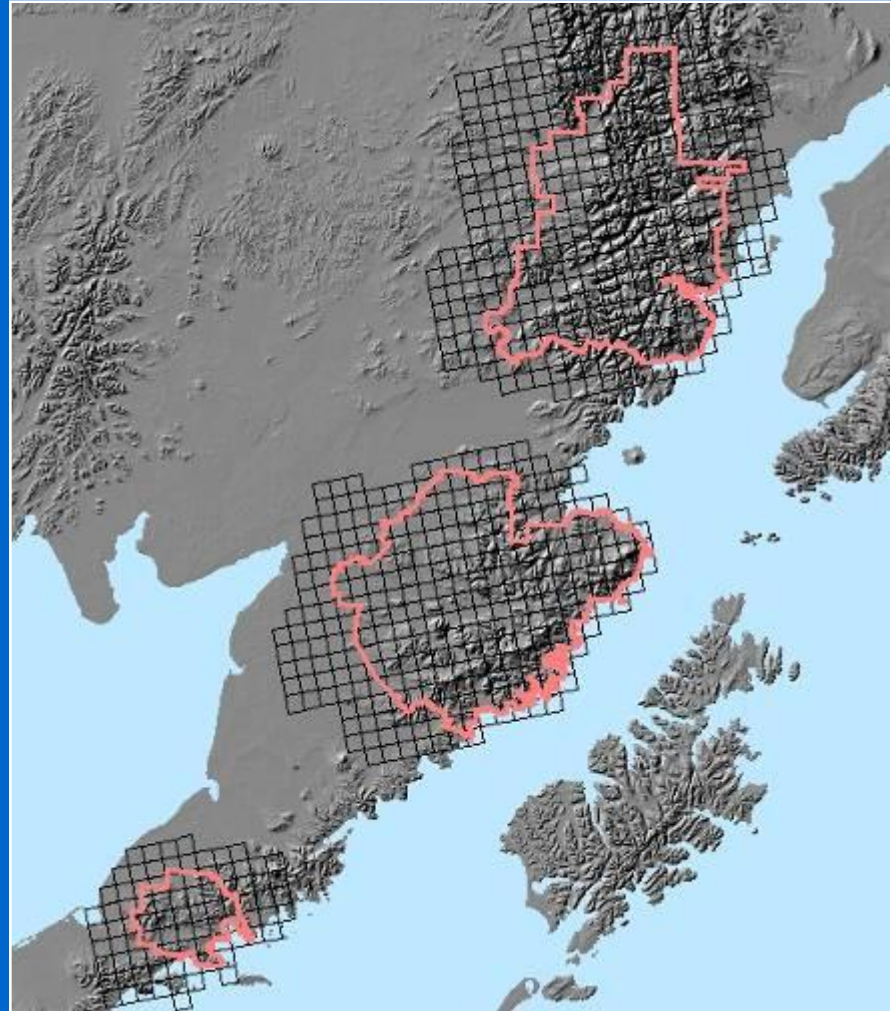
Study Area

- Lake Clark NPP, Katmai NPP, and Aniakchak NMP
- Area: 35,300 km²



Study Grid

- State-wide grid of 10 X 10 km study plots
- Anticipated sampling of 20–30 plots during spring sample period



Criteria for Plot Inclusion

- > 50% of plot within park boundaries
- Montane areas (>100 m a.s.l.)
- Unglaciated
- <50° slope
- Plots allocated in proportion to ecological subsection within sample

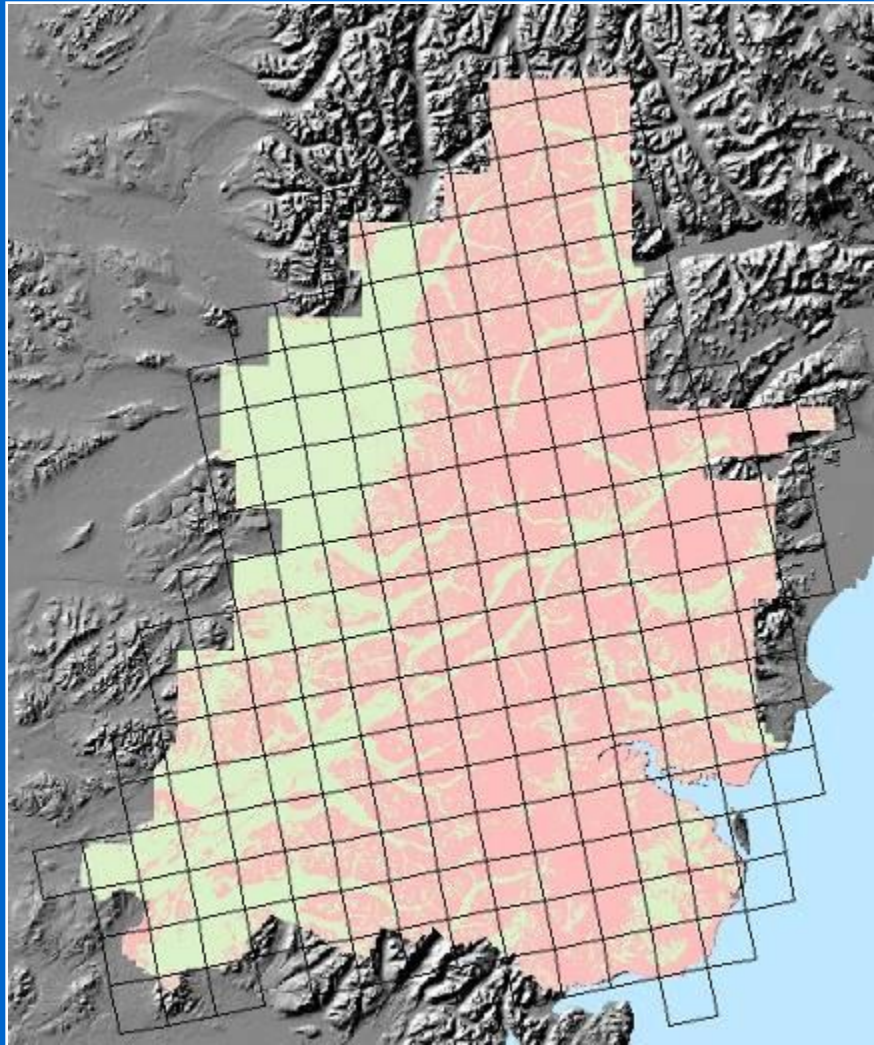
Resulting in our sample universe:

Green

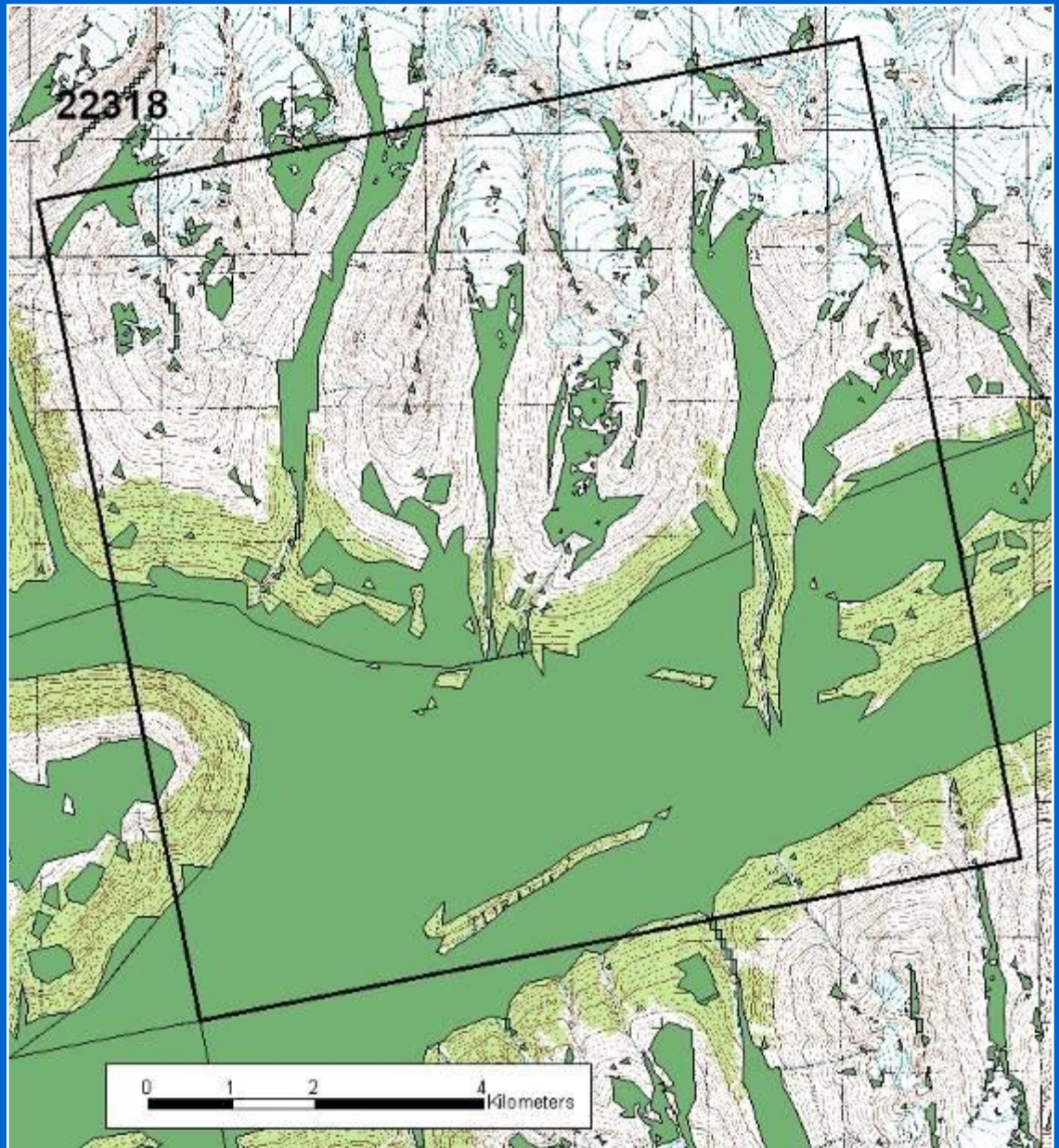
= within sample

Red

= outside sample

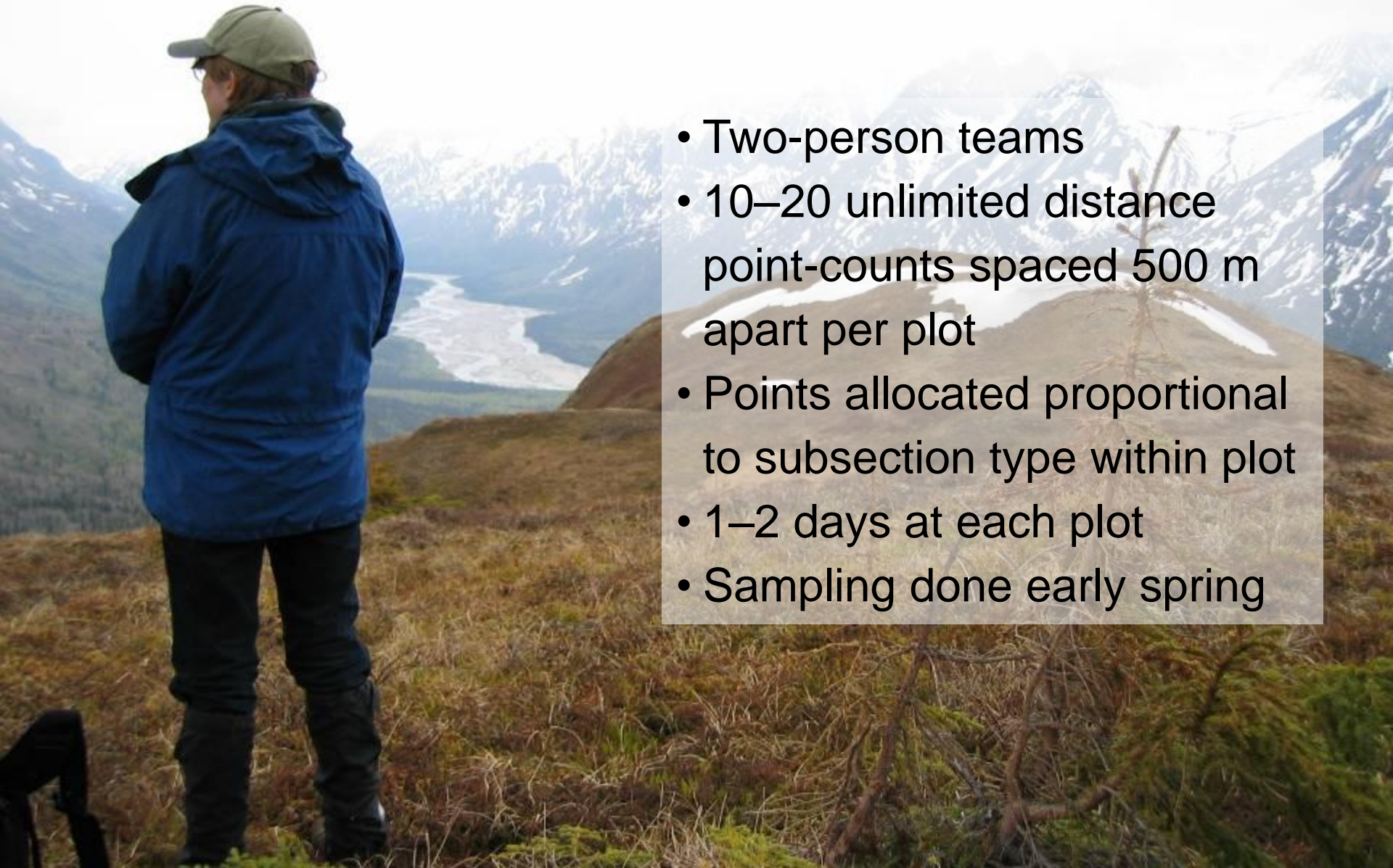


- Despite removal of steep, glaciated areas, large sections within Chigmit and Neacola Mountains still remain within sample...



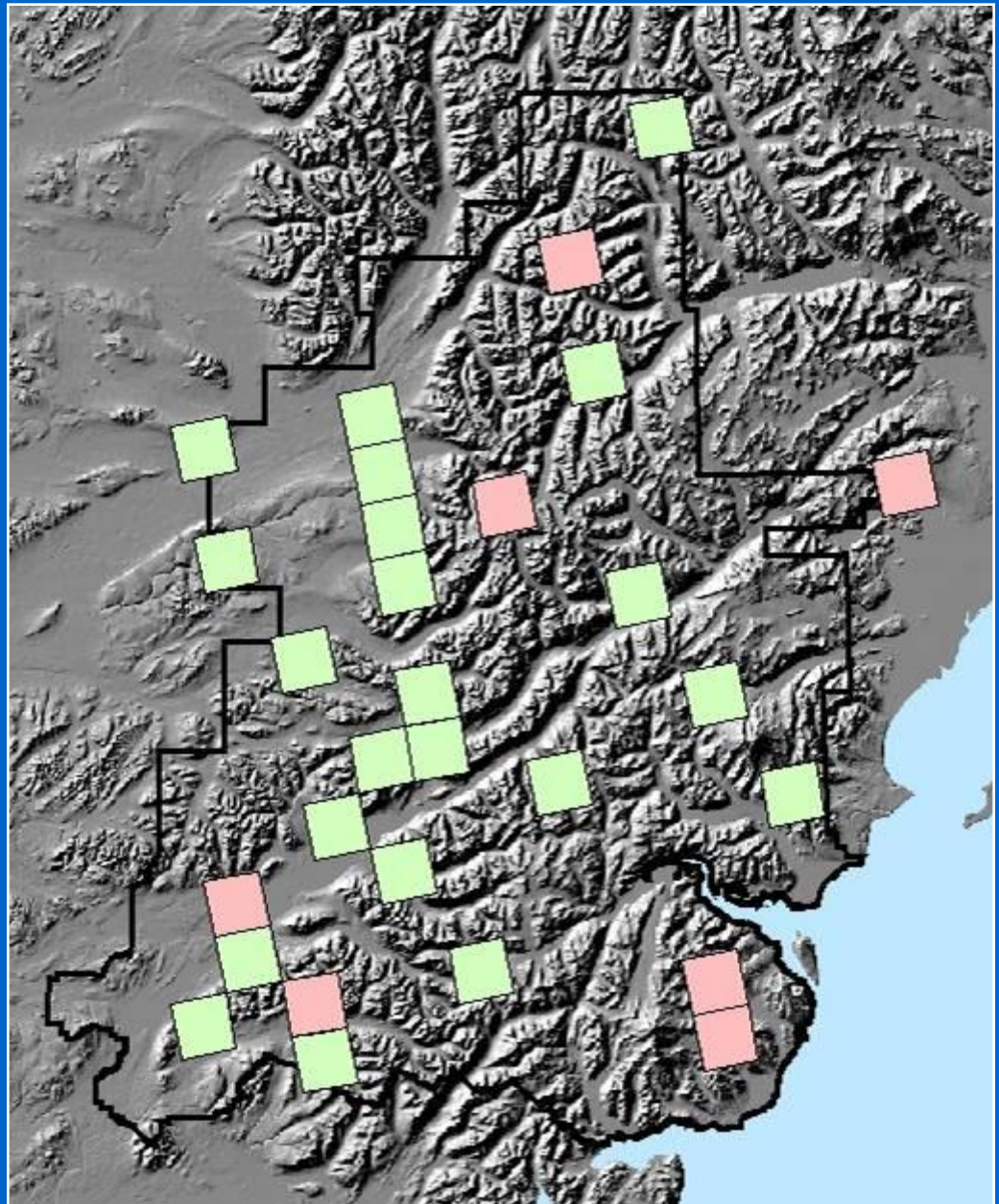
Point-count Methodology

- Two-person teams
- 10–20 unlimited distance point-counts spaced 500 m apart per plot
- Points allocated proportional to subsection type within plot
- 1–2 days at each plot
- Sampling done early spring



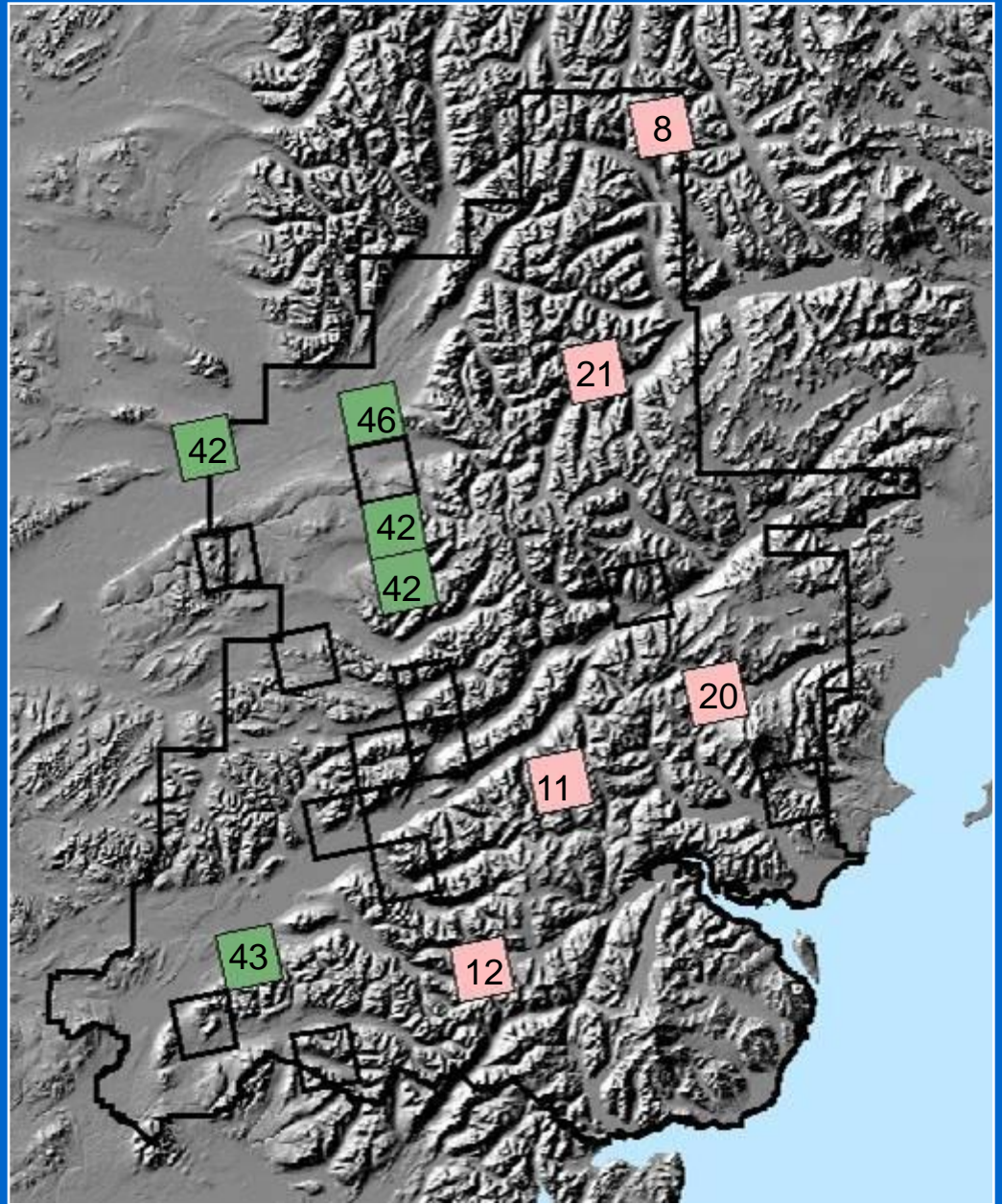
Results

- 16–29 May;
revisit of 35
points 9–12
June
- 22 plots
sampled
(green); 7
plots not
visited (red)
- 379 points
conducted;
~95 hours of
surveys total

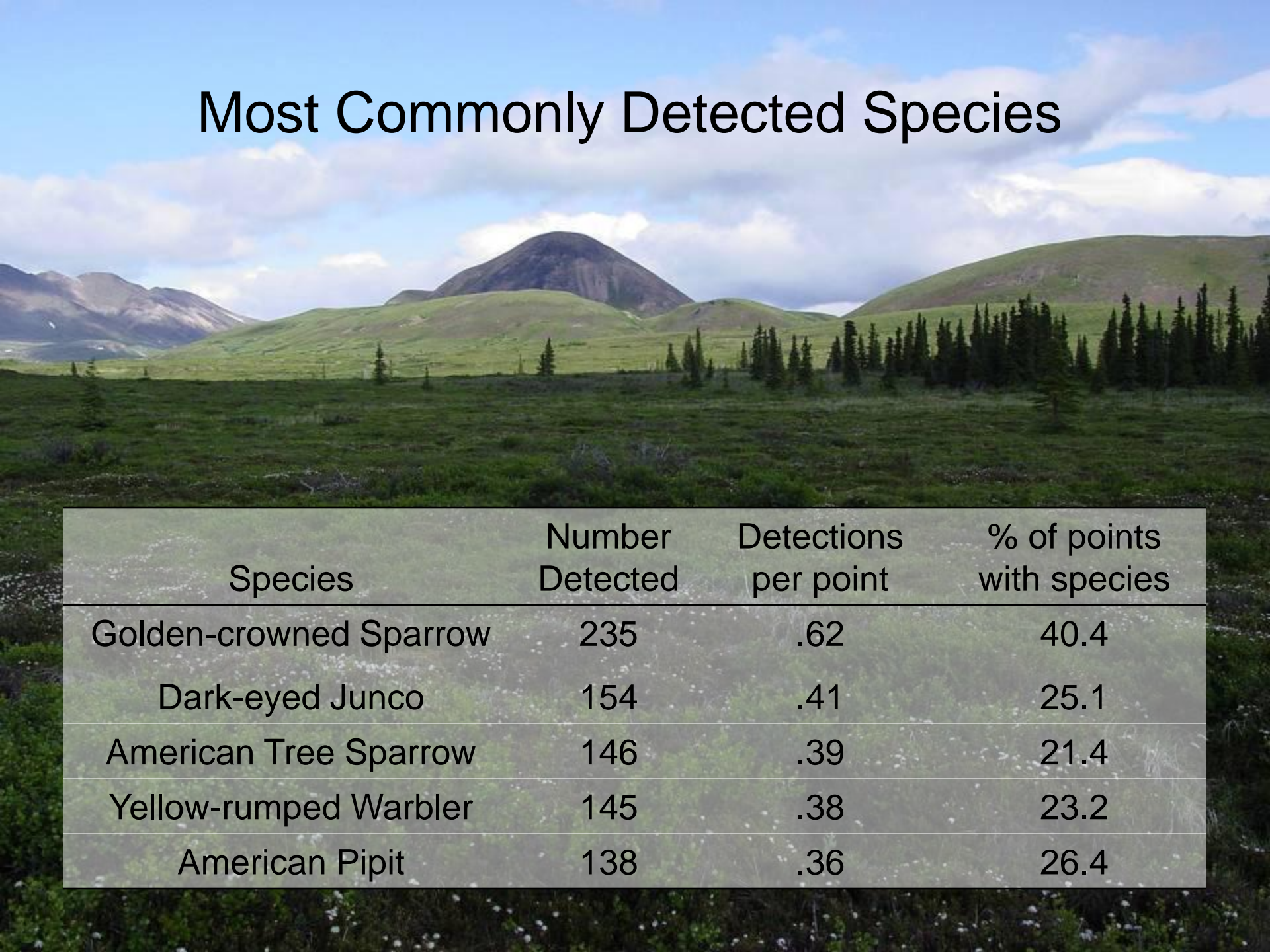


Results

- 99 species detected overall (5 added with June visit)
- Average 21.7 ± 1.75 SE species per plot; range 8–46



Most Commonly Detected Species



Species	Number Detected	Detections per point	% of points with species
Golden-crowned Sparrow	235	.62	40.4
Dark-eyed Junco	154	.41	25.1
American Tree Sparrow	146	.39	21.4
Yellow-rumped Warbler	145	.38	23.2
American Pipit	138	.36	26.4

High-Elevation Species

Species	Number Detected	Detections per point	% of points with species
Wandering Tattler	10	.03	1.6%
Surfbird	7	.02	1.6%
Baird's Sandpiper	4	.01	0.8%
Northern Wheatear	4	.01	0.8%
Say's Phoebe	2	.01	0.5%
Gray-crowned Rosy-Finch	1	.01	0.3%

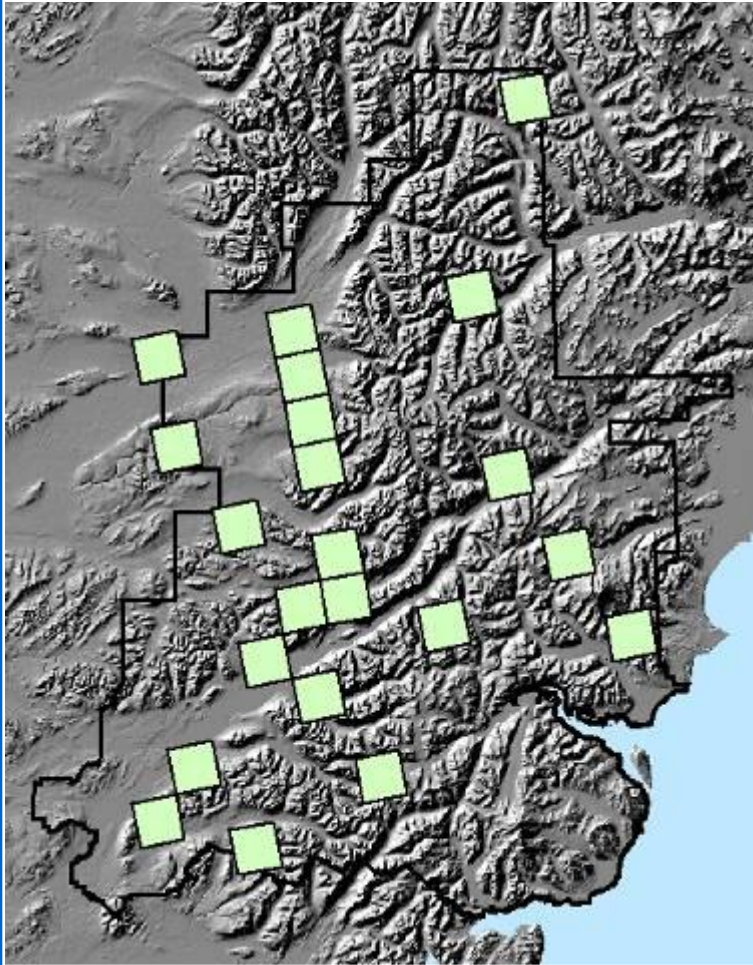
Species of Concern

Species	Number Detected
Blackpoll Warbler	2
Rusty Blackbird	3
Olive-sided Flycatcher	5
Solitary Sandpiper	2
American Golden-Plover	24
Wandering Tattler	10

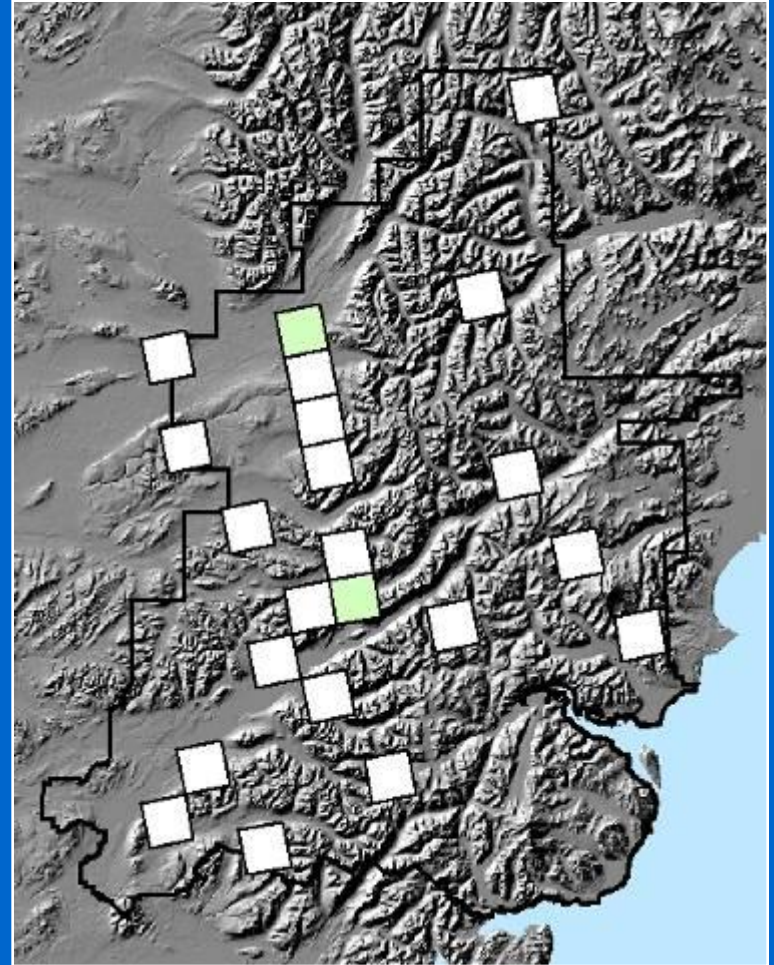


Wandering Tattler

Distribution

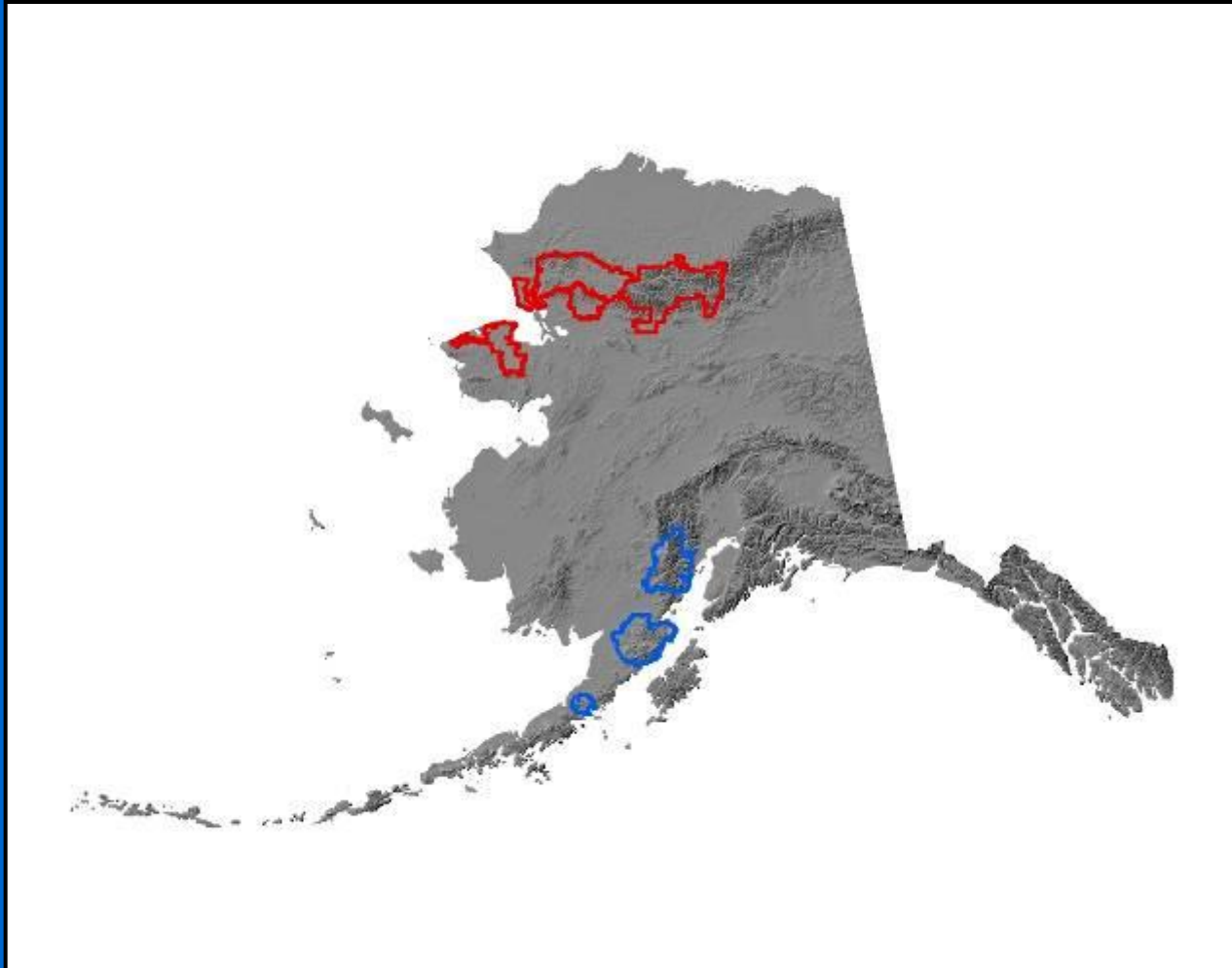


Golden-crowned Sparrow



Blackpoll Warbler

Comparison to Other Studies



Comparison to Other Studies

Mean number of individuals per point

This Study: 6.7 ± 0.28 SE

Arctic Network: 5.6 ± 0.13 SE

Mean number of species per point

This Study: 4.3 ± 0.14 SE

Arctic Network: 3.5 ± 0.06 SE

Total number of species detected

This Study: 104

Arctic Network: 115

Relevance to Future Monitoring Efforts

- Baseline inventory of distribution, relative abundance, and habitat and landscape feature associations
- Ability to monitor population trends with future replication
- Specific focus on birds typically underrepresented in more traditional bird surveys; ability to plan targeted studies hereafter



E.J. Peiker

Lesser Yellowlegs

What's Next

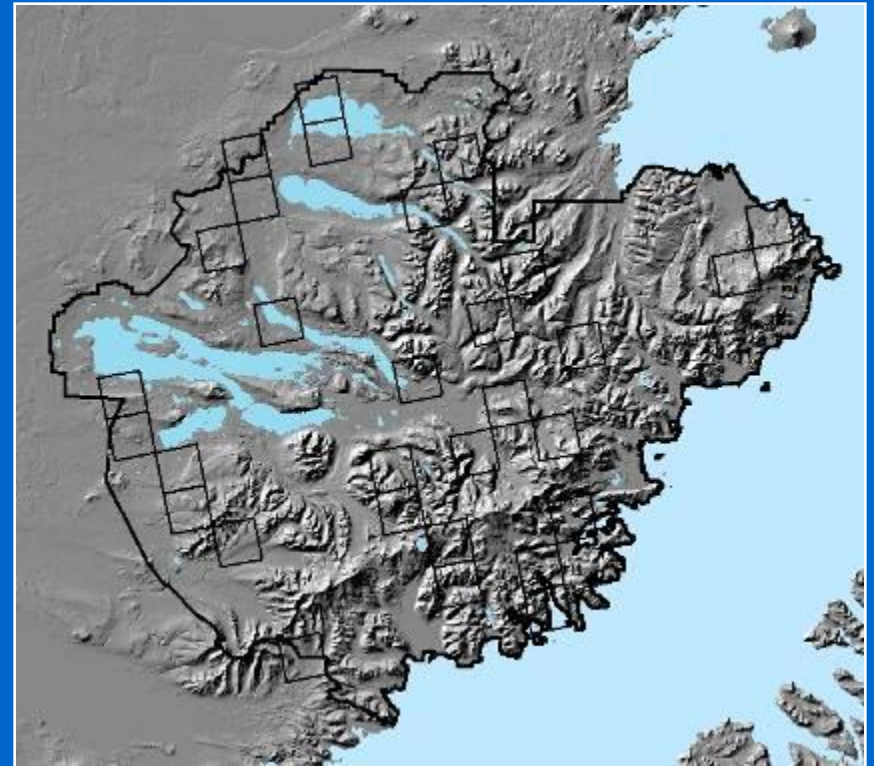
- 2005 Field Studies

Katmai NPP, Aniakchak NMP

- Continue Analyses

Species-specific density estimates

Species-habitat associations



Acknowledgements



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